

Seventh Progress Report on section of

Fire Detection in Aircraft Engine Nacelles by

C. J. McCamy and Wm. F. hoeser

Covering period 25 October 1953 to 25 January 1954 Covering period 29 october 1995 to 29 cantary 1994

for

Headquarters

Wright Air Development Center Wright-Patterson Air Force Base Dayton, Ohio
Project No. 52-660A45

WCLEM-3

W -

THE TRUCK OF THE CASE OF THE SECTION OF THE SECTION

the said

Fire Detection in Aircraft Lagine Lacelles

by

C. S. McCamy and Wm. F. Roeser

1. Summary

During the past quarter measurements were made of the rate at which energy was radiated in various parts of the spectrum from high velocity jet flames. Measurements were also made of the rate of increase in the radiation as the rate of combustion increased from the instant of ignition. Some measurements were made of the relative amounts of energy received from flames with and without a heated background.

2. Measurements on High Velocity Jet Flames

A series of measurements have been made on high velocity flames produced by a ram-jet type burner in which the fuel and air could be premixed and preheated. Gasoline was the fuel used. For one series of flames, both the fuel and air were premixed and preheated and the fuel-air ratio was varied over wide limits. For another series, only the air was preheated and the fuel was injected into the air stream just ahead of the flame holder. The maximum velocity of the burning gas ranged from 670 to 2570 feet per second. Measurements were made of the rate of energy radiated in selected wavelength bands and the flicker frequency distribution.

3. Hot Background Studies

A series of measurements have been made of the relative amounts of energy received from flames with and without a heated background. A black body radiator was used as the background source and its temperature was varied from 70° to 1000°F.

4. Rate of Increase of Umission

The rate of increase of energy emitted by gasoline and hydraulic fluid flames was measured under different conditions.

The results of these experiments are being analyzed and summarized for inclusion in the final report.

5. Financial Condition

Expenditures and commitments on this project:

April 25, 1952 through sept. 30, 1953 \$25,632.36

Oct. 1, 1953 through Dec. 31, 1953 Total through December 31, 1953 37.633.96

13

1 4

. t f i

mail to the state of

response to the second second

The state of the s

A TOUR LINE AND A DESCRIPTION AND A STREET AND

Entropy of the second

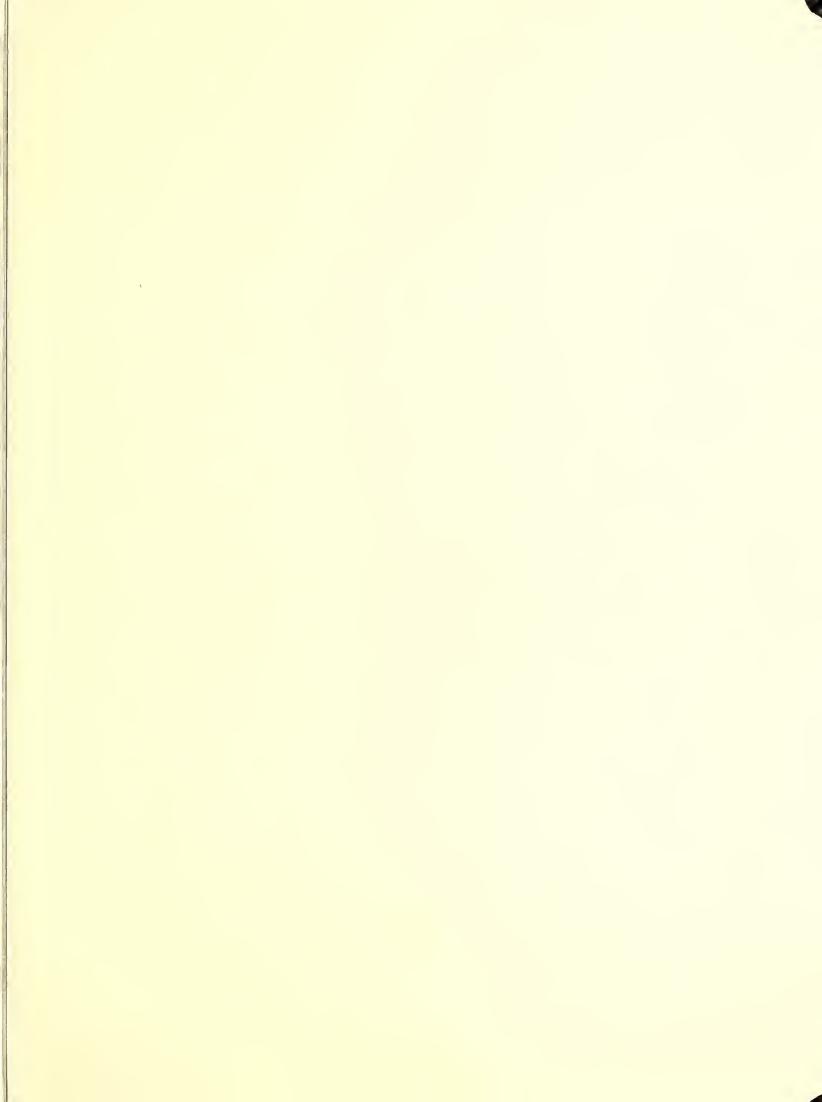
all occur also many and a somilar to

Fig. 1 and a small discount of the Line

THE ACTION OF THE STATE OF THE SAY 233

1 - 1 -

22.4



	<i>x</i> :	